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—(INC.)—  
**Engineers and Builders**  
 Of High Duty Pumping Engines for Water Works and Irrigation

THE SPECIAL ATTENTION OF PLANTATION MANAGERS AND AGENTS is called to the fact that we carry in stock at our Queen Street warehouse a large assortment of pump for all kinds of sugar house service, including vacuum pumps, air pumps, condensers, feed pumps, juice pumps, molasses pumps, etc., together with a complete stock of spare parts and valves for all sizes. Careful attention given all orders and prompt shipment guaranteed.

ESTIMATES FURNISHED FOR COMPLETE IRRIGATION PUMPING PLANTS OF ANY CAPACITY OR POWER.

Office, Corner Fort and Queen Sts. Warehouse: Corner Queen and Cook Sts.  
 Honolulu, H. I. Telephone 596.

## RISDON IRON WORKS

San Francisco, California.

### ENGINEERS AND BUILDERS

Pumping Machinery, Heine Boilers,  
 Plain Tubular Boilers, Corliss Engines,  
 Cane Cars, Vacuum Pans

And all Machinery for the complete equipment of Sugar Mills.

OFFICE: Cor. King and Nuuanu Sts.  
 HONOLULU, H. I.

## Pacific Hardware Co., Ltd.

HOUSEHOLD DEPARTMENT, BETHEL ST.

In addition to the stock of J. T. Waterhouse, have lately ordered lines of—

Daulton, Minton and Haviland Ware,  
 Crockery, Lamp Ware, Japanese and  
 China Lacquered Ware,  
 Fine Cut Glass Ware.

The above are being opened as rapidly as possible and having been bought at the factories at prices ruling previous to late advances, offer exceptional opportunities for purchases at bargain rates.

### Bath Tubs and Sanitary Plumbing Fixtures.

### SEWING MACHINES

The Wilcox and Gibbs Automatic, New Victoria and the Pan American Hand Machine.

HOUSEHOLD SUPPLIES  
 In great variety.

## There Are Plumbers and Plumbers.

### OUR SPECIALTY IS Sanitary Plumbing.

There's as much difference between plumbing and SANITARY PLUMBING as there is between daylight and darkness. Anyone can put a lot of pipes together and run them off anywhere, but with Honolulu's surface sewerage the essential point is to have the plumbing done in a way that makes the Sanitary conditions perfect.

## JOHN NOTT.

75-79 KING ST. TEL: NO. 31

## CATTON, NEILL & CO.

FOUNDERS AND MACHINISTS.

243 Queen St., bet. Alakea and Richards Sts., Honolulu.

Invite Enquiries for General Ironwork; Iron and Brass Castings.  
 Steam Boilers, Water Pipe and All Kinds of Sheet Iron Work  
 Made and Repaired, Machine and Ships' Blacksmithing.

REPAIRS PROMPTLY ATTENDED TO. TEL 410.

## FERTILIZATION

### Report of Mr. A. Lidga e to Planters' Association.

Comparison of Methods Used in Hawaii—Experiment Made—  
 Greensolling.

Does commercial fertilizer build up our soils and render them more fertile from year to year, or is it only a stimulant by the use of which we are able in a comparatively short time to force from the soil a great amount of its fertility or stored plant food, thus getting from it at some expense for stimulants a larger yield of sugar for a short period, leaving the soil at the end of this time in an extreme state of poverty, which, by nature's methods, would never have occurred?

In my opinion, true fertility can only be maintained by rational methods of cultivation, such as rotation of crops, bare fallow, green soiling, the liberal use of stable manure and all waste products from the sugar-house and farm.

Burning our fields after harvesting the cane is a great waste of plant food. The reason of its universal practice is the troublesome nature of the work required to get it back into the soil; this can be done for the sum of \$4 per acre, for either plant cane or ratoons. In the former case it often means the loss of the use of a field for one year, but are not our fields entitled to this rest? We have not found that \$40 worth of fertilizer will equal the \$4 spent in the trash burying; when a year's rest can be given the field the result is much more satisfactory. In ratoons a very simple method is employed which gets the trash thoroughly under and at the same time gives the field a partial deep plowing. For dry years this is a great help to the crop as the mass of rotting trash furnishes a mass of moisture through which cane roots will be found in abundance.

The reasons for not burying trash are its expense and a fancied increase of borer; the first has no weight, as the expense is small and the gain on the immediate crop will repay it many times to say nothing of the gain to the land in fertility and mechanical condition. We have not found that it increases the borer; on fields that the trash has all been put back for eight years the borer is no worse than on fields burned; perhaps it would be well to state that there is very little borer in this district.

Stable manure, night soil and waste products from the mill or sugar-house are so husbanded that at least 200 acres each year gets a liberal dose of these materials. The land so manured invariably grows the best cane, not suffering from occasional droughts to the extent of fields treated with commercial fertilizers. Stable manure is treated as follows: Large sheds are built convenient to the stables into which the manure and saturated bedding are wheeled each morning this is spread evenly and a quantity of potash salt or Dr. Averdams manure preserver is scattered on the top of it to help in retaining the ammonia, at night a flock of several hundred sheep are folded on this; by their tramping and leaving they convert the heap as well as add to its fertility, thus preventing the burning up of most of the valuable part of the manure, as usually is the case.

For several years this estate has had from 1,200 to 1,500 tons of manure each year, whose value by analysis is \$4 per ton. We think \$6,000 a year worth saving. Night soil systematically gathered will go over a good many acres of poor places each year and help the yield of a doubtful field quite a good deal. Cheap and convenient sanitary arrangements can be made so that the expense of gathering the night soil will be slight and at the same time the camps can be kept perfectly free from the nuisance of feeking vaults.

Green soiling, we have practiced this for several years and have derived great benefit from it. The only plant that is used for this purpose is the lupin; this planted in the beginning of winter grows in four months to a height of three to four feet, covering the field with a heavy growth. At first considerable difficulty was experienced in plowing this under because of the size of the plants and the immense amount of foliage; this has been overcome by the use of the "Secretary disc plow," which cuts them clean and turns them completely under, at the same time doing an excellent job of plowing and harrowing combined. Green-soiling, in my opinion, is perhaps the nearest we can come to copying nature's methods of creating plant food that is at once available. Bare fallow, which is a weak method of green-soiling, for us has very little value as compared with the former; owing to the climatic conditions, the natural grasses do not grow rapidly and there is very little if any root or plant formations returned to the soil; however, it has this in its favor, while the field is in bare fallow it is resting from cane.

These methods are very old ones that have been in use in older countries for centuries; they were adopted for just the reasons that are forcing us in this country to make use of them. While our fields are new and full of fertility we can draw on them from year to year and have our drafts honored, but when they fail, as they surely will, is it not then rather late to begin a more rational method of cultivation?

### SEND YOUR FRIENDS

One of our "Hawaiian Souvenir Art Calendars" for 1900. The most handsome calendar yet produced, containing thirteen cards of choice views Hawaiian scenery, price \$1. WALL, NICHOLS CO., LTD.

## SUNDAY SERVICES.

Central Union Church, corner Beretania and Richards streets. Rev. W. M. Kincaid, pastor.—9:55 a. m., Sunday school; 11:30 a. m., public worship and sermon; 7:30 p. m., P. S. C. E. prayer meeting; 7:30 p. m., public worship and sermon. Wednesday, 7:30 p. m., prayer meeting. Palama Chapel.—9:30 a. m., Sunday school; 7:30 p. m., Gospel service. A welcome for all at every service.

Services at St. Clement's Chapel (Episcopal) Wilder avenue, Punahou.—Celebration of the Holy Communion: First Sunday of the month, 11:05 a. m.; every other Sunday, 7:15 a. m.; Saints' days, 6:45 a. m.; matins and sermon, 11:05 a. m.; evensong and sermon, 7:05 p. m.; daily prayer at 6:45 a. m. Beretania street cars run to the Chapel. Twenty minutes from Fort Street. Seats free and unappropriated. Vested choir.

Methodist Episcopal Church, corner Beretania and Miller streets. G. L. Pearson, pastor.—The public is invited to attend the following regular services: Sunday, 10 a. m., Sunday school; 11 a. m., public worship and sermon; 6:30 p. m., Epworth League, and 7:30 p. m., public worship and sermon. Wednesday, 7:30 p. m., prayer meeting.

Seventh-Day Adventist Chapel—Located at the end of Hotel street, one block from Punchbowl street. Services: Saturday Sabbath school, 10 a. m.; preaching, 11 a. m. Tuesday, prayer and missionary meeting, 7:30 p. m. All are welcome. B. L. Howe, pastor.

Christian Church, Alakea street near King.—Rev. Wm. A. Gardner pastor. W. C. Weedon, superintendent of Sunday school. Richard Weedon, president of the Young People's Society. Professor L. Cook, choir master and organist. Preaching at 11 a. m. and 7:30 p. m. on Lord's day. Prayer meeting Wednesday at 7:30 p. m. A cordial welcome to all. Sociability a specialty.

Church of St. John the Baptist (Kalihi-waena)—Religious services as follows: 8 a. m., High Mass, with sermon and collection for the usual expenses of the church; 3 p. m., Rehearsal; 4 p. m., Rosary.

Reorganized Church of Jesus Christ of Latter Day Saints, Milliani Hall, near of Opera House—Sunday services as follows: 10 a. m., Sunday school; 11 a. m., preaching; 6:30 p. m., Hawaiian services; 7:30 p. m., English services. The subject of the sermon for the English service will be "The Priesthood." Wednesday evening, 7:30, prayer meeting; all are invited.

## The Future of Children

A child's life may be blighted by the diseases of youth, such as Rickets, which is characterized by weak bones or crooked spine, and inability to stand or walk steadily, or Marasmus, that wasting disease characterized by paleness and emaciation, or Scrofula, a constitutional disease of the glands and neck.

### Scott's Emulsion

of pure Cod-Liver Oil with Hypophosphites of Lime and Soda will prevent and cure these diseases. It supplies just the material needed to form strong bones, rich red blood and solid flesh. It will also reach the infant through the mother's milk, and be of the greatest benefit to both.

At all druggists; 50c. and \$1.00.  
 SCOTT & BOWNE, Chemists, New York.

## Xmas Opening!

### Santa Claus' HEADQUARTERS.

Establishes again for the HOLIDAY SEASON at—

### THOS. G. THURM'S UP-TOWN BOOK STORE.

Brewer's Block - Fort St.

With its usual assortment of DOLLS, TOYS, LEATHER and FANCY GOODS, CALENDARS, STATIONERY, ETC.,

For which this house has been noted, with BOOKS and RUBBER GOODS to arrive later.

## Sure Cure

For General Weakness.

The debilitating effects of a warm climate and exposure to all kinds of weather are sure to bring on disorders of the blood and weaken the system. Mr. Charles Goddes, of Mt. Malcolm, W. A., sends us his photograph, and tells of a sure cure for these conditions.



"For some time I have been landlord of the Royal Hotel in the Mt. Margaret gold fields district, eighty miles from the nearest railway. I have sold a great deal of Ayer's Sarsaparilla, and it gives the most universal satisfaction. When miners, prospectors, and others become run down by lack of fresh vegetables and fruits, and from exposure to all kinds of weather, their blood becomes very impure and the whole system greatly weakened. But

## AYER'S Sarsaparilla

is always a sure cure. I have known miners to send a hundred miles for it, such is their faith in it."

To cure constipation, biliousness, indigestion, and sick headache, there is no remedy equal to Ayer's Pills.

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass., U.S.A.  
 HOLLISTER DRUG CO., Agents.

## Holiday Goods!

We have just unpacked the following lines—Grass Linen Cloth, of Embroidery and Draw Work, in Doilies, Centre Pieces, Table Cloths, Etc.

Handsome Kimonos, Portiers, Silks and Silk Goods, Pajamas, Rugs, Porcelain and Lacquer Ware.

### Dolls, Toys, Curios, Japanese Novelties.

All Kinds of Shirts, Silk, Crepe, Negligee, Golf, Etc., Etc. Don't buy until you have seen our stock. The Goods and Prices will suit you.

## CHIYA & CO.

(Formerly Murata & Co.)  
 HOTEL ST., COR. NUUANU.

Branch Hat Store, Nuuanu St.



THAT TIRED FEELING so common in this enervating climate, can be relieved at once by rubbing the head thoroughly with a small quantity of the Pacheco Dandruff Killer. While this preparation is unequalled for the eradication of dandruff, it also possesses remarkable stimulating properties which not only affect the scalp but through that medium the whole system. Try one application of PACHECO'S DANDRUFF KILLER. For sale by all druggists and at the Union Barber Shop. Telephone 696.

## HOLIDAY : GOODS

—AT—

### BIART'S

404 1/2 FORT ST.  
 JEWELER.

## WE

Are commencing to open our

## Xmas Goods

And have now on display

### GRASS LINEN PATTERN WORK,

Including  
 TABLE CLOTHS, DOILIES,  
 And BUREAU COVERS.

We ask you to inspect our stock of

## Porcelain

Consisting of KUTANI WARE, SATSUMA WARE, CLOISONNE WARE.

Our line of—

## IVORY WARE

Cannot be excelled in the city.

A large assortment of—

## Silk Goods

Just opened.

A large stock on hand to select from, at prices that will SURPRISE YOU.

## S. OZAKI,

WAVERLEY BLOCK - - - HOTEL STREET

## WE WIN! OTHERS ARE DISTANCED.

BY AUSTRALIA—  
 NEW GOODS.

## EVERYTHING USED IN PHOTOGRAPHY

An additional electrical dryer enables us to turn out the work of AMATEURS; developing and printing.

QUICKER THAN EVER.

## The Le Munyon PHOTO SUPPLY CO.

426 Fort Street.

## On the Ice

—FOR—

## THANKSGIVING.

Frozen Eastern and California Oysters, Celery, Cauliflower, Artichokes, Rutabagas, Turnips, Horseradish, fresh Butter, Grapes, Apples, Pears, fancy Cheeses, Salmon and Sole, Smoked Salmon, Red Cabbages, Lemons, Limes, New Nuts, Mince Meat, Cranberries, Citron and Orange Peel, Raisins, Fig fancy Cheese, Etc.

## Lewis & Co.

FOOD SPECIALISTS. 111 Fort St.  
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